

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all previous versions and listings of claims in this application.

Claim Listing:

1. (Currently Amended) A method of determining a home area for a subscriber terminal in a radio system where the subscriber terminal includes measuring means for measuring strengths of signals received from different base stations and for storing measurement results in a memory, the method comprising:

receiving a location updating message from the subscriber terminal;

transmitting, from a base station, a command to the subscriber terminal after the location updating message has been received, wherein the command is to transmit the measurement results stored in the memory of the subscriber terminal;

receiving the measurement results from the subscriber terminal;

identifying the base stations with the greatest signal strengths at least partially based on the measurement results; and

determining the home area of the subscriber terminal such that the home area includes at least one of the identified base stations.

2. (Previously Presented) The method of claim 1, further comprising preventing the subscriber terminal from setting up communication links via base stations other than those which belong to the subscriber terminal's home area after determining the home area for the subscriber terminal.

3. (Previously Presented) The method of claim 1, wherein the subscriber terminal is a new subscriber terminal and the method further comprises:

adding an identity of the subscriber terminal to a register of new subscribers of at least one subscriber network element in the system; and

providing the subscriber terminal with free mobility for the duration of the determination of the home area, such that the subscriber terminal operates within an area covered by at least one of the subscriber network elements having the identity of the subscriber terminal in the register of new subscribers thereof.

4. (Previously Presented) The method of claim 1 further comprising changing the home area after the home area has been previously determined for the subscriber terminal, the changing including:

adding the identity of the subscriber terminal to the register of new subscribers of at least one subscriber network element in the system;

providing the subscriber terminal with free mobility for the duration of the determination of the home area, such that the subscriber terminal operates in both the determined home area and in an area covered by at least one of the subscriber network elements having the identity of the subscriber terminal in the register of new subscribers thereof; and

waiting for a location updating message to be forwarded from the subscriber terminal via at least one of the subscriber network elements having the identity of the subscriber terminal in the register of new subscribers thereof.

5. (Previously Presented) A wireless local loop radio system comprising:

a plurality of subscriber terminals including:

measuring means for measuring strengths of signals received from different base stations and for storing measurement results in a memory, and

transmitting means for transmitting location updates to other parts of the system;
a subscriber network element configured to communicate with an exchange and including transmitting means for transmitting telecommunication signals between the subscriber terminals and the exchange via the base stations;

detecting means for detecting a location updating message transmitted by a particular subscriber terminal;

command transmitting means for transmitting a command to the particular subscriber terminal after detecting the location updating message transmitted by the subscriber terminal, wherein the command is to transmit the measurement results stored in the memory of the subscriber terminal;

receiving means for receiving the measurement results transmitted by the subscriber terminal;

identifying means for identifying the base stations with the strongest signals at least partially based on the measurement results received from the subscriber terminal; and

determining means, responsive to the identification means, for determining a home area for the subscriber terminal such that the home area includes at least one of the identified base stations.

6. (Previously Presented) The radio system of claim 5, wherein

the subscriber network element communicates with a local exchange of a public switched telephone network to transmit telecommunication signals between the subscriber terminals and the local exchange via the base stations, wherein the subscriber network element is provided with a register of new subscriber terminals, and

wherein the detection means detects location updating messages transmitted by one of the subscriber terminals the identity of which is stored in the register of new subscriber terminals.

7. (Previously Presented) The radio system of claim 5, wherein the subscriber network element includes a base station controller, the base station controller being configured to communicate with a mobile services switching centre to transmit telecommunication signals between the subscriber terminals and the mobile services switching centre via the base stations.

8. (Currently Amended) A subscriber network element comprising:

transceiving means for setting up a communication link to an exchange for transmitting telecommunication signals between subscriber terminals and the exchange;

a register of new subscriber terminals being configured to store identities of new subscriber terminals,

~~detecting~~ means for detecting a location updating message containing the subscriber identity stored in the register of the new subscriber terminals;

~~transmitting~~ means for transmitting, by a base station, a command to a particular subscriber terminal which transmitted the location updating message after the detection of the location updating message, wherein the command is to transmit the measurement results stored in the memory of the particular subscriber terminal;

~~receiving~~ means for receiving the measurement results transmitted by the subscriber terminal;

~~identifying~~ means for identifying the base stations with the strongest signals at least partially based on the measurement results received from the subscriber terminal; and

~~determining~~ means, responsive to the identification means, for determining a home area for the subscriber terminal such that the home area includes at least one of the identified base stations.

9. (Currently Amended) A subscriber terminal of a radio system, comprising:

transceiving means for setting up a communication link via a radio path to other parts of the system;

~~measuring~~ means for measuring strengths of signals received from different base stations and for storing measured results in a memory; and

~~transmitting~~ means for transmitting a location updating message to the other parts of the system,

wherein the transceiving means are arranged to transmit the measurement results stored in the memory to the other parts of the system in response to a predetermined command received from a base station by the subscriber terminal.

10. (Previously Presented) The subscriber terminal of claim 9, wherein the transmitting means are arranged to transmit the measurement results in a short message to the other parts of the system.

11. (Previously Presented) A wireless local loop radio system comprising:

a plurality of subscriber terminals each including:

a measuring unit configured to measure strength of signals received from different base stations and to store measurement results in a memory, and

a transmitting unit configured to transmit location updates to other parts of the system;

a subscriber network element configured to communicate with an exchange and including a transmitter configured to transmit telecommunication signals between the subscriber terminals and the exchange via the base stations;

a detecting unit configured to detect a location updating message transmitted by a particular subscriber terminal included in the plurality of subscriber terminals;

a command transmitting unit configured to transmit a command to the particular subscriber terminal after detecting a location updating message transmitted by the particular subscriber terminal, wherein the command is to transmit the measurement results stored in the memory to the particular subscriber terminal;

a receiving unit configured to receive the measurement results transmitted by the particular subscriber terminal;

an identifying unit configured to identify the base stations with the strongest signals at least partially based on the measurement results received from the subscriber terminal; and

a determining unit, responsive to the identifying unit, configured to determine a home area for the particular subscriber terminal such that the home area includes at least one of the identified base stations.

12. (Previously Presented) A radio system according to claim 11, wherein the subscriber network element communicates with a local exchange of a public switched telephone network to transmit telecommunication signals between the subscriber terminals and the local exchange via the base stations,

wherein the subscriber network element is provided with a register of new subscriber terminals, and

wherein the detecting unit is configured to detect location updating messages transmitted by one of the plurality of subscriber terminals, the identity of which is stored in the register of new subscriber terminals.

13. (Previously Presented) A radio system according to claim 11, wherein the subscriber network element includes a base station controller of a cellular radio system, the base station controller being configured to communicate with a mobile services switching centre to transmit telecommunication signals between the subscriber terminals and the mobile services switching centre via the base stations.

14. (Previously Presented) A subscriber network element comprising:

a transceiver unit configured to set up a communication link to an exchange for transmission of telecommunication signals between a plurality of subscriber terminals and the exchange;

a register of new subscriber terminals configured to store identities of new subscriber terminals,

a detecting unit configured to detect a location updating message containing the subscriber terminal identity stored in the register;

a transmitting unit configured to transmit a command to the particular subscriber terminal which transmitted the location updating message after detection of the location updating message, the command being to transmit measurement results stored in a memory of the particular subscriber terminal to the subscriber network element;

a receiving unit configured to receive the measurement results transmitted by a particular subscriber terminal included in the plurality of subscriber terminals;

an identifying unit configured to identify the base stations with the strongest signals at least partially based on the measurement results received by the receiving unit; and

a determining unit, responsive to the identifying unit, configured to determine a home area for the particular subscriber terminal such that the home area includes at least one of the identified base stations.

15. (Currently Amended) A subscriber terminal of a radio system, comprising:

a transceiving unit configured to set up a communication link via a radio path to other parts of the system and configured to transmit measurement results stored in a memory to the other parts of the system in response to a predetermined command received from a base station by the subscriber terminal;

a measuring unit configured to measure signal strengths received from different base stations to produce the measurement results and configured to store the measurement results in the memory; and

a transmitting unit configured to transmit a location updating message to the other parts of the system.

16. (Previously Presented) The subscriber terminal of claim 15, wherein the transmitting unit is configured to transmit the measurement results in a short message to the other parts of the system.

17. (Previously Presented) A method of determining a home area for a subscriber terminal in a radio system including at least one subscriber network element, the subscriber

terminal including a measuring unit configured to measure strength of signals received from different base stations and configured to store resulting measurement results in a memory, the method comprising:

transmitting a location updating message to the at least one subscriber network element;

receiving a command from the at least one subscriber network element after the location updating message has been received, wherein the command is to transmit the measurement results stored in the memory to the at least one subscriber network element;

transmitting the measurement results to the at least one subscriber network element;

identifying the base stations with the greatest strengths of signals at least partially based on the measurement results; and

determining the home area of the subscriber terminal such that the home area includes at least one of the identified base stations.

18. (Previously Presented) The method of claim 17, further comprising preventing the subscriber terminal from setting up communication links via base stations other than those which belong to the subscriber terminal's home area after determining the home area for the subscriber terminal.

19. (Previously Presented) The method of claim 17, wherein the subscriber terminal is a new subscriber terminal and the method further comprises:

adding an identity of the subscriber terminal to a register of new subscribers of at least one subscriber network element in the system; and

providing the subscriber terminal with free mobility for the duration of the determination of the home area, such that the subscriber terminal operates within an area covered by at least one of the subscriber network elements having the identity of the subscriber terminal in the register of new subscribers thereof.

20. (Previously Presented) The method of claim 17, further comprising:

changing the home area after the home area has been previously determined for the subscriber terminal, the changing including:

adding the identity of the subscriber terminal to the register of new subscribers of at least one subscriber network element in the system;

providing the subscriber terminal with free mobility for a duration of a determination of the home area, such that the subscriber terminal operates in both the determined home area and in an area covered by at least one of the subscriber network elements having the identity of the subscriber terminal in the register of new subscribers thereof; and

forwarding a location updating message to at least one of the subscriber network elements having the identity of the subscriber terminal in the register of new subscribers thereof.